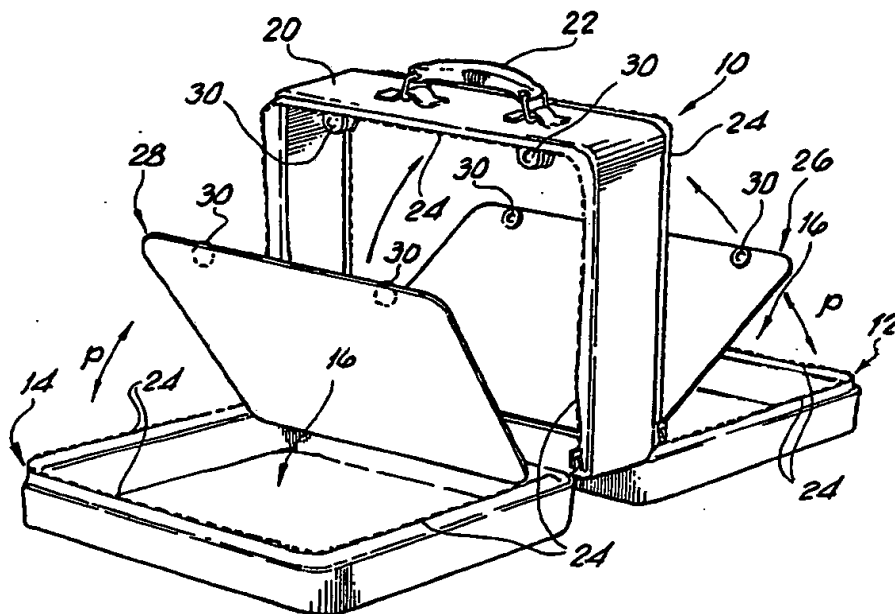




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<p>(21) International Application Number: PCT/GB90/00172</p> <p>(22) International Filing Date: 5 February 1990 (05.02.90)</p> <p>(30) Priority data: 8902514.2 4 February 1989 (04.02.89) GB</p> <p>(71)(72) Applicant and Inventor: SNEADER, Alan [GB/GB]; The Chase, 11 Westgate, Ruskington, Nr Sleaford, Lin- colnshire, NG34 9ES (GB).</p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only) : WALTERS, Alan, Leslie [GB/GB]; 140-142 Connaught Road Central, 23/F Loong San Building, GPO Box 1396, Hong Kong (HK).</p>	<p>(74) Agent: ARCHER, Philip, B.; Urquhart-Dykes & Lord, Trinity Court, Trinity Street, Priestgate, Peterborough, Cambs PE1 1DA (GB).</p> <p>(81) Designated States: AT (European patent), AU, BE (Euro- pean patent), CA, CH (European patent), DE (Euro- pean patent), DK (European patent), ES (European pa- tent), FR (European patent), GB, GB (European patent), IT (European patent), JP, LU (European patent), NL (European patent), SE (European patent), US.</p> <p>Published <i>With international search report.</i></p>	

(54) Title: CARRIERS FOR HAND TOOLS OR THE LIKE



(57) Abstract

A portable carrier for hand tools is in the form of an item of travelling luggage such as a flexible travel bag or case. The carrier is openable in the manner of a suitcase. Located between the opposite sides thereof is one or more internal locating panels or frames which provide locating means for hand tools additional to those provided by the opposite side members of the carrier. Both sides of the panels can be used for the purpose. In this way, the carrying capacity of the carrier can be tripled.

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Carriers for hand tools or the like.

This invention relates to carriers. More particularly, the invention relates to portable carriers for hand tools and the like. The invention may well be applicable to carriers for articles other than hand tools including carriers for displaying a variety of small goods for sale.

Previous proposals for carriers for hand tools include tool cases formed of metal or plastic, and generally similar in structure to a brief case, with provision of locating means for the tools on the base of the case, and on the opening door.

However, these proposals provide only limited capacity for properly located tools within the case. Of course, further tools could be placed loose in the carrier after all locating stations have been filled. However, this is contrary to the purpose of the carrier, namely the convenient carrying of tools and their presentation in readily accessible form for use.

Accordingly, it is an object of the present invention to provide a portable carrier for hand tools and the like offering improvements in relation to matters discussed above, or generally.

According to the invention there is provided a portable carrier for hand tools and the like as claimed in the accompanying claims.

An embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which :

Fig 1 shows, purely diagrammatically, a perspective view of a portable carrier for hand tools according to the invention; and

Figs 2 to 7 show, diagrammatically, plan views of the six tool-locating surfaces provided in the carrier of Fig 1.

As shown in the drawings, there is provided a portable carrier 10 for hand tools and the like. Carrier 10 comprises first and second closure members 12, 14. The closure members define a space 16 within the carrier 10 to receive hand tools or the like. The closure members are movable by pivoting relative to each other, in the directions indicated by arrows P, to open and close the carrier.

In defining the space 16, closure members 12 and 14 cooperate with an open frame member 20 which forms a stiffening structure for the carrier. Frame 20 is generally rectangular and includes a metal rectangular stiffening member (not seen as such in Fig 1) extending around its periphery, and having secured thereto a carrying handle 22. Frame member 20 has a covering of polyester or nylon or canvas flexible sheet material. This same material likewise covers the closure members 12 and 14, on their exterior surfaces, and serves to provide an attractive and hardwearing external surface for the entire carrier. Extending along the peripheral edges of frame member 20 (on both its sides), and on closure members 12 and 14, are zip fasteners indicated diagrammatically at 24, or the like, whereby the closure members can be secured to the frame member in the closed condition of the carrier. The entire assembly is conveniently carried in the hand by a user.

Two internal locating panels or frames 26, 28 are

positioned between the closure members 12, 14 to provide locating means for hand tools or the like additional to such tool locating means provided on the closure members themselves. In this embodiment, the locating panels or frames are positioned, each between its closure member and the central frame member. In alternative constructions, it would be possible to provide the locating panels or frames, adjacent each other on the same side of the carrier, or indeed in other arrangements, the frame member 20 might not be provided, or might form part of one of the closure members. Only one locating panel or frame might be required in some arrangements, or indeed, more than two.

In this embodiment, the panel or frame members 26, 28 are pivotally mounted on the main structure of the carrier, and means is provided for supporting them in an upright position in the open condition of the carrier, whereby hand tools or the like thereon are displayed for access thereto.

For this purpose, frame member 20, which forms a stiffening structure for the carrier 10, is arranged to extend generally upwardly in the open condition of the carrier, as shown in Fig 1, and quick-attach connection means is provided to connect the frame member 20 to the internal panel or frame members 26, 28. The connection means is indicated in Fig 1, diagrammatically, by the reference numerals 30, the same arrangement being provided for both of the locating panels or frames. The connection means may comprise snap or pop type fasteners, velcro or otherwise.

In the open condition of the carrier, indicated in Fig 1, the closure members 12 and 14 can extend horizontally and may be held in such position by the weight of the tools located thereon, as described below. In this condition, the frame member 20 is stabilized in its upwardly extending

position, and the connection means 30 can then serve to secure either or both of the panel or frame members 26, 28 in their upright positions.

Turning now to the arrangements for locating the hand tools or the like within the carrier 10, reference is directed to Figs 2 to 7 which show the six surfaces provided by the two closure members 12, 14 and the two opposite sides of each of the panel members 26, 28.

It will be noted that in Figs 2 to 7, which simply show plan views of the arrangements of hand tools on the closure members and locating panels, the peripheral shape of the structure is, of course, the same in each case. Thus, the arrangement of tools thereon is purely a matter of choice. Nominally, in these views, Figs 2 and 7 show the closure members 12 and 14, respectively, while Figs 3 and 4 show opposite sides of panel 26, and Figs 5 and 6 show opposite sides of panel 28. It will be understood that there is some merit in choosing to locate the heavier tools, such as an electric drill 32 (and its associated drill bits located in a pocket 34), together with adjustable spanners 36 and wrenches 38 on the closure members 12 and 14, rather than on the panels 26 and 28, though this is by no means an essential requirement.

The means for locating the hand tools, and associated accessories, on the closure members and panels is by means of resilient band-form tool locating members, secured at one end to the panel or closure member, and which stretch to accommodate the tool in question, and may be fixed or detachably secured at their other ends to the closure member or panel. Thus, for example, electric drill 32 is located in position by placing it on closure member 14, approximately where shown, and taking the two resilient tool locating bands 40, which are fixed to closure member

14 at their ends 42, and stretching them over the relevant portions of the drill, and then securing their other ends to the closure member by quick attach connection means such as velcro or a press-type fastener at end 44. A similar mode of attachment is adopted for locating the power cable 46 for the drill, and its key 48.

The method of locating drill 32 is similar to that adopted for the other hand tools, subject to minor modifications. Thus, the method of location is indeed the same for hammers 50, spirit level 52, spanners 54, torch 56, extension cable 58, hack saw 60, pliers 62, pincers 64 and several other items. In the case of chisels 66 and screw drivers 68, it may not be necessary to provide for detachability of one end of the tool locating band or strap. The linear nature of the tool element may enable same to be inserted without detachment.

A further feature of the system for locating tools and their accessories provides for detachability of containers for certain items. Thus, the pocket 34 for the drill bits is detachably secured in place by means of velcro or other quick attach fastening means. Likewise the containers 70 for screws, nails, tacks and washers. The containers themselves could be directly fastened to the panels and/or closure members, or located in pockets which are thus fastened.

Interestingly, the above embodiment provides a portable carrier for hand tools and the like which is of simple and relatively inexpensive construction. Its carrying capacity is up to three times that of previous proposals, so far as properly located tools are concerned. The tools can be readily displayed in an accessible fashion. Whichever of the panels is required can be secured to frame member 20 by means of fasteners 30,

according to the job being carried out. The tools are secured on both sides of the panel members. Thus, for the tools on the inner sides, the panel members will be allowed to rest in their horizontal positions.

Amongst other modifications which could be made in the above embodiment while remaining within the scope of the invention are the following. Considerable variation in the design of the closure members and the body of the portable carrier generally may be made. For example, the carrier may be of simple suitcase form, without a separate frame such as 20, and with one or more locating panels between the main case members. The panels may be detachable. The panels themselves may be modified so as to be in the form of a simple frame or like structure provided it has sufficient strength to support or locate the hand tools or the like in question. For example, an open frame with transverse bars might suit certain purposes. Many different methods for supporting the panels or frames in their upright position could be adopted as alternatives to the fasteners 30, including the use of stays to prop the panel or frame members in their required positions.

CLAIMS :-

1 A portable carrier for hand tools or the like comprising :-

a) a first closure member;

b) a second closure member;

c) said closure members defining a space within the carrier to receive hand tools or the like and being movable for example by pivoting relative to each other to open and close the carrier; and

d) locating means within the carrier to receive and locate said hand tools or the like therein;

characterised by

e) an internal locating panel or frame positioned between said closure members and having additional locating means within the carrier to receive and locate additional hand tools or the like.

2 A carrier according to claim 1 characterised by said internal locating panel or frame being pivotally mounted on said carrier.

3 A carrier according to claim 1 or claim 2 characterised by means for supporting said internal panel or frame in an upright position in the open condition of said carrier, whereby hand tools or the like thereon are displayed for access thereto.

4 A carrier according to claim 3 characterised by said means for supporting comprising open frame means located between said first and second closure members and forming a stiffening structure for said carrier during carrying, said open frame means being arranged to extend generally upwardly in the open condition of said carrier and quick-

attach connection means being provided to connect said open frame to the internal panel or frame so as to hold the latter in said upright position.

5 A carrier according to claim 4 characterised by said first and second closure members being adapted to extend generally horizontally in said open condition of said carrier, whereby the weight of hand tools thereon stabilizes said open frame means in its upwardly extending position.

6 A carrier according to claim 4 or claim 5 characterised by a manual support handle or the like mounted on said open frame for carrying purposes.

7 A carrier according to any one of the preceding claims characterised by said internal panel or frame having resilient tool locating means which stretch or accommodate tools or the like.

8 A carrier according to claim 7 characterised by said resilient tool locating means comprising lengths of resilient band material having quick-attach connection means at one end to enable tools to be inserted thereunder and resiliently held against said panel or frame after connection of said quick-attach connection means.

9 A carrier according to any one of the preceding claims characterised by pocket means adapted to be detachably mounted within said carrier by quick-attach connection means.

10 A portable carrier for hand tools and the like substantially as described herein with reference to the accompanying drawings.

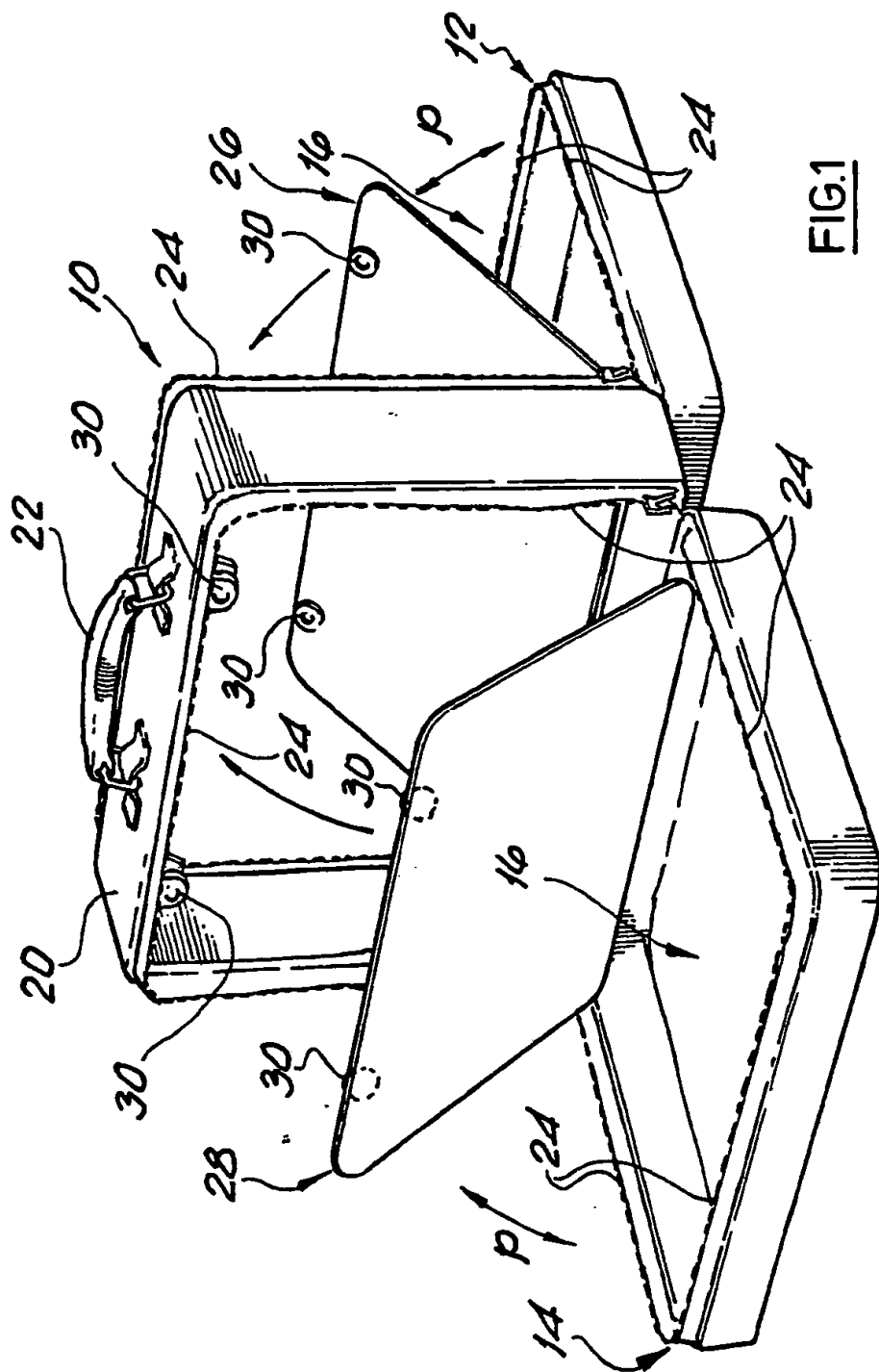


FIG. 1

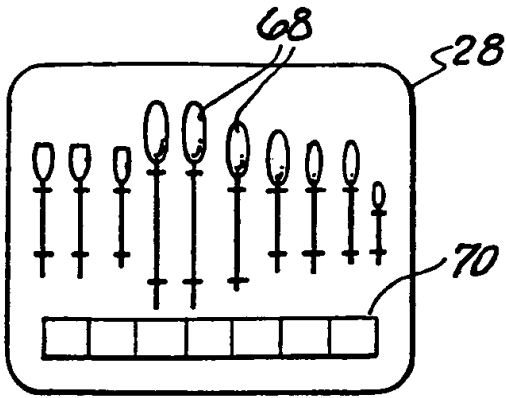


FIG. 5

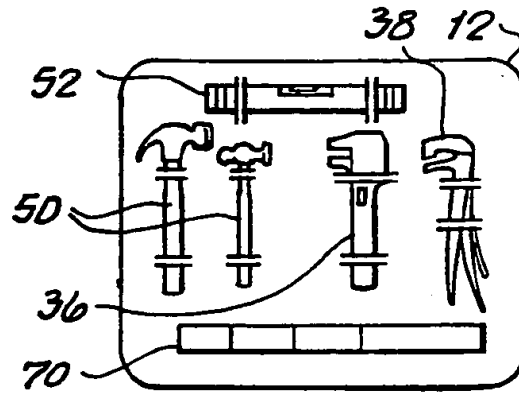


FIG. 2

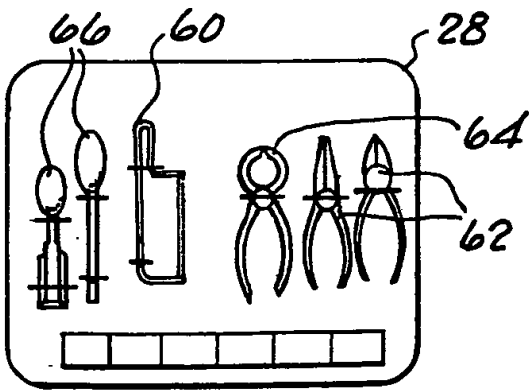


FIG. 6

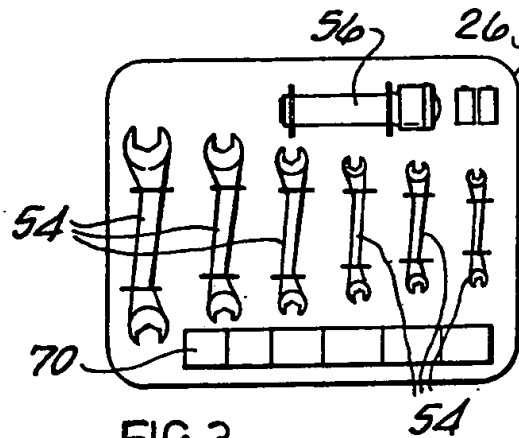


FIG. 3

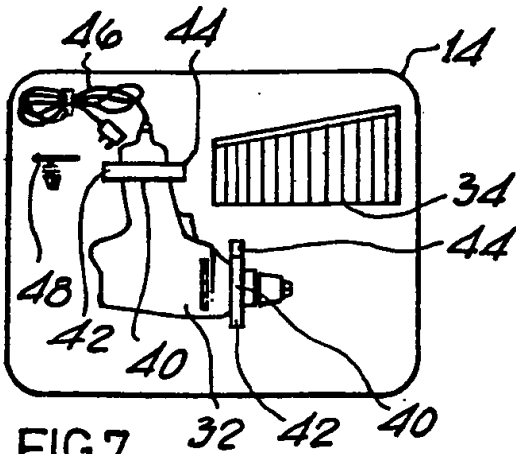


FIG. 7

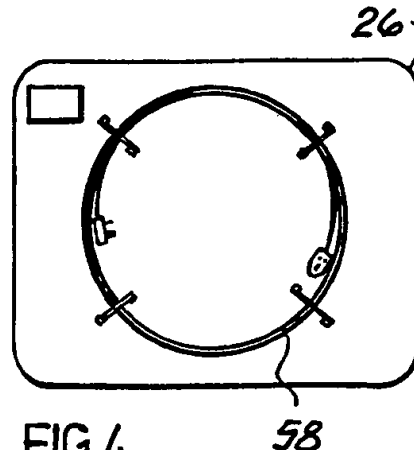


FIG. 4

INTERNATIONAL SEARCH REPORT

International Application No. **PCT/GB 90/00172**

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶ According to International Patent Classification (IPC) or to both National Classification and IPC IPC5: B 25 H 3/00, A 45 C 5/12														
II. FIELDS SEARCHED <div style="text-align: right; font-size: small;">Minimum Documentation Searched ⁷</div> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%; border: none;">Classification System ¹</td> <td style="border: none;">Classification Symbols</td> </tr> <tr> <td style="border: none; height: 40px; vertical-align: top;"> IPC5 B 25 H; A 45 C </td> <td style="border: none;"></td> </tr> </table> <div style="text-align: center; font-size: x-small;">Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸</div>			Classification System ¹	Classification Symbols	IPC5 B 25 H; A 45 C									
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III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹ <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th style="width: 10%;">Category ¹⁰</th> <th style="width: 60%;">Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²</th> <th style="width: 30%;">Relevant to Claim No. ¹³</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">X Y</td> <td style="vertical-align: top;">DE, A1, 2000776 (BUCHMANN, R.) 15 July 1971, see the whole document --</td> <td style="vertical-align: top;">1-6 7</td> </tr> <tr> <td style="vertical-align: top;">X Y</td> <td style="vertical-align: top;">FR, A5, 1561960 (JOACHIM, E.) 4 April 1969, see the whole document --</td> <td style="vertical-align: top;">1-6 7</td> </tr> <tr> <td style="vertical-align: top;">X Y</td> <td style="vertical-align: top;">WO, A1, 87/02227 (FROSTA FRITID AB) 23 April 1987, see figure 1; claims 1-5 --</td> <td style="vertical-align: top;">1-3 7</td> </tr> </tbody> </table>			Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³	X Y	DE, A1, 2000776 (BUCHMANN, R.) 15 July 1971, see the whole document --	1-6 7	X Y	FR, A5, 1561960 (JOACHIM, E.) 4 April 1969, see the whole document --	1-6 7	X Y	WO, A1, 87/02227 (FROSTA FRITID AB) 23 April 1987, see figure 1; claims 1-5 --	1-3 7
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X Y	WO, A1, 87/02227 (FROSTA FRITID AB) 23 April 1987, see figure 1; claims 1-5 --	1-3 7												
<div style="display: flex; justify-content: space-between; font-size: x-small;"> <div style="width: 45%;"> <p>¹⁰ Special categories of cited documents: ¹⁰</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 50%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"A" document member of the same patent family</p> </div> </div>														
IV. CERTIFICATION <table style="width: 100%; border: none;"> <tr> <td style="width: 40%; border: none; vertical-align: top;"> Date of the Actual Completion of the International Search 17th April 1990 </td> <td style="width: 60%; border: none; vertical-align: top;"> Date of Mailing of this International Search Report <div style="text-align: center; font-size: large;">03.05.90</div> </td> </tr> <tr> <td style="border: none; vertical-align: top;"> International Searching Authority <div style="text-align: center; font-weight: bold; font-size: large;">EUROPEAN PATENT OFFICE</div> </td> <td style="border: none; vertical-align: top;"> Signature of Authorized Officer <div style="text-align: center;"> Mme N. KUIPER </div> </td> </tr> </table>			Date of the Actual Completion of the International Search 17th April 1990	Date of Mailing of this International Search Report <div style="text-align: center; font-size: large;">03.05.90</div>	International Searching Authority <div style="text-align: center; font-weight: bold; font-size: large;">EUROPEAN PATENT OFFICE</div>	Signature of Authorized Officer <div style="text-align: center;"> Mme N. KUIPER </div>								
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III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
X	FR, A1, 2405115 (SOCIETE GENERAL D'OUTILLAGE DE SAINT-ETIENNE) 4 May 1979, see page 2, line 25 - page 3, line 10 --	1,2
A	EP, A2, 0005627 (POTOMAC APPLIED MECHANICS INC.) 28 November 1979, see the whole document --	1-10
A	DE, C1, 529352 (JÄGER, G AND WERNER, V.) 11 July 1931, see the whole document -- -----	1-10

**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO. PCT/GB 90/00172**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-A1- 2000776	15/07/71	NONE	
FR-A5- 1561960	04/04/69	NONE	
WO-A1- 87/02227	23/04/87	NONE	
FR-A1- 2405115	04/05/79	NONE	
EP-A2- 0005627	28/11/79	AT-T- 531	15/01/82
		AU-B- 525088	21/10/82
		AU-D- 4650179	22/11/79
		CA-A- 1126796	29/06/82
		JP-A- 55005388	16/01/80
		US-A- 4170392	09/10/79
		US-A- 4286832	01/09/81
DE-C1- 529352	11/07/31	NONE	